**3.2**

**Trigonometric Functions of Acute Angles**

**Trigonometric Functions**

Let θ be an acute angle in the right , then

 Sine (θ) = sin θ = cosecant θ = csc θ = 

Cosine (θ) = cos θ =  secant (θ) = sec θ = 

Tangent (θ) = tan θ = cotangent (θ) = cot θ = 

**For a 30° – 60° – 90° triangle, applying the definitions of the trig functions you get the following (when θ = 30°).**

**** sin θ = csc θ = 

cos θ =  sec θ = 

tan θ = cot θ = 

**Find the values of all six trig functions for a 45°– 45°– 90° triangle.**

 sin θ = csc θ = 

cos θ =  sec θ = 

tan θ = cot θ = 

**Finding the six trig functions given a function.**

**Ex.**

**If sin = , find the remaining trig functions.**

Hint: Draw a triangle and label with given info.

**To find *a* use the Pythagorean theorem ().**

**Now you can find the values for the remaining functions.**

**cos = tan= csc= sec= cot=**

**Applications of Right Triangle Trigonometry**

Using some of the parts of a triangle to solve for all the others is solving a triangle.

Ex. Solve  using the given information in the triangle.

 . To find *a* , tan  so, .

To find c use the Pythagorean Theorem.

**Evaluating Trig functions with a calculator.**

Make sure the angle mode is correct.

Do not use the inverse key to evaluate cot, sec, csc

Do not use function shorthand

Close the parentheses!!!!!